

REMARKS:

I. IDS:

Upon review, it appears that the IDS that was to be included with the previously-filed Response to Office Action was inadvertently omitted. As such, the IDS is submitted herewith. The IDS includes U.S. Patent Application No. 10/770,881, referenced in the instant application on p. 11 of the specification. It is expressly noted that no admission is made regarding any alleged application or use of this reference as prior art against the instant patent application.

The IDS also includes references cited during the prosecution of U.S. Patent Application No. 10/770,881 and/or during the prosecution of corresponding foreign applications. Similarly, it is expressly noted that no admission is made regarding the alleged application or use of any of these references as prior art against either the instant application or U.S. Patent Application No. 10/770,881. Furthermore, no admission is made concerning the relevance or pertinence of these references to the claims of the instant application.

II. CLAIM AMENDMENTS

Claims 1, 16, 31 and 43 are amended for purposes of clarity. Support for these claim amendments can be found in the specification at least at page 6, lines 27-28 and page 9, lines 22-24. No new matter is added.

III. CLAIM REJECTIONS:

Claims 1-16 and 31-59 are currently pending, with claims 1, 16, 31 and 43 being independent claims.

- (1) The Examiner rejected claims 31, 32, 44 and 45 under 35 U.S.C. §102(e) as being anticipated by *Yegin* (U.S. Patent No. 7,376,097). *See pp. 2-5 of the Office Action.*

- (2) The Examiner rejected claims 1-5, 14, 15, 43, 45, 46, 49 and 58 under 35 U.S.C. §103(a) as being unpatentable over *Shitama* (U.S. Patent Application Publication No. 2002/0126642) in view of *Yegin*. See pp. 5-10 of the Office Action.
- (3) The Examiner rejected claims 6, 7, 52 and 53 under 35 U.S.C. §103(a) as being unpatentable over *Shitama* in view of *Yegin* and further in view of *Kato et al.* (U.S. Patent No. 6,646,999, hereinafter "*Kato*"). See pp. 10-12 of the Office Action.
- (4) The Examiner rejected claims 8-10 under 35 U.S.C. §103(a) as being unpatentable over *Shitama* in view of *Yegin* and further in view of *Chiou et al.* (U.S. Patent No. 6,473,413, hereinafter "*Chiou*"). See pp. 12-15 of the Office Action.
- (5) The Examiner rejected claim 11 under 35 U.S.C. §103(a) as being unpatentable over *Shitama* in view of *Yegin* and further in view of *Ernst et al.* ("Network Mobility Support Terminology," 2002, hereinafter "*Ernst*"). See p. 15 of the Office Action.
- (6) The Examiner rejected claims 12 and 13 under 35 U.S.C. §103(a) as being unpatentable over *Shitama* in view of *Yegin* and further in view of *Ernst*. See pp. 15-17 of the Office Action.
- (7) The Examiner rejected claims 16 and 59 under 35 U.S.C. §103(a) as being unpatentable over *Ernst* in view of *Yegin*. See pp. 17-19 of the Office Action.
- (8) The Examiner rejected claim 33 under 35 U.S.C. §103(a) as being unpatentable over *Yegin* in view of *Chiou*. See pp. 19-20 of the Office Action.
- (9) The Examiner rejected claims 34 and 35 under 35 U.S.C. §103(a) as being unpatentable over *Yegin* in view of *Kato*. See pp. 20-21 of the Office Action.

- (10) The Examiner rejected claims 36-38 under 35 U.S.C. §103(a) as being unpatentable over *Yegin* in view of *Chiou*. See pp. 22-24 of the Office Action.
- (11) The Examiner rejected claims 39-42 under 35 U.S.C. §103(a) as being unpatentable over *Yegin* in view of *Ernst*. See pp. 24-26 of the Office Action.
- (12) The Examiner rejected claim 47 under 35 U.S.C. §103(a) as being unpatentable over *Yegin* in view of *Chiou*. See pp. 26-27 of the Office Action.
- (13) The Examiner rejected claim 48 under 35 U.S.C. §103(a) as being unpatentable over *Yegin* in view of *Ernst*. See pp. 27-28 of the Office Action.
- (14) The Examiner rejected claims 49-51 under 35 U.S.C. §103(a) as being unpatentable over *Shitama* in view of *Yegin* and further in view of *Chiou*. See pp. 28-30 of the Office Action.
- (15) The Examiner rejected claims 54-57 under 35 U.S.C. §103(a) as being unpatentable over *Shitama* in view of *Yegin* and further in view of *Ernst*. See pp. 30-33 of the Office Action.

These rejections are respectfully disagreed with and are traversed below.

A. EXEMPLARY EMBODIMENTS OF THE INSTANT APPLICATION

At page 6, line 24-page 7, line 2 of the specification, it is stated:

In one aspect this invention provides a system and a method to manage addresses in a network. The method includes connecting a MR, also referred to herein as a gateway mobile terminal, of a MONET to an access point AP of an AN that includes an AR; making a request to obtain a plurality of link addresses from a

link address manager of the AN; allocating individual ones of the plurality of link addresses to individual ones of network nodes of the MONET; and performing a neighbor discovery procedure with the AR to send at least one neighbor advertisement to declare the allocated individual ones of the assigned plurality of link addresses.

Thus, at least some exemplary embodiments of the invention function as follows. A mobile router (MR), also referred to as a gateway mobile terminal, serves as the gateway for a mobile network (MONET) that includes a number of nodes (e.g., mobile nodes, terminal devices). The MR sends a request to a link address manager of an access network (AN). The request is to obtain a plurality of link addresses. Once the MR receives a response (e.g., a response from the link address manager providing a plurality of link addresses), the MR allocates individual ones of the link addresses to individual ones of the nodes of the MONET. In such a manner, the MR assists in the provisioning and management of link addresses for the nodes of the MONET.

It is briefly noted that none of the cited prior art (*Yegin, Shitama, Chiou, Ernst, Kato*), considered separately or in combination, discloses or suggests such functionality (e.g., for a gateway mobile terminal). None of the cited prior art discloses or suggests managing information for a plurality of link addresses that are subsequently assigned (e.g., by a gateway mobile terminal) to nodes of a mobile network. Arguments with respect to specific references and specific claim language are presented in further detail below.

B. CLAIMS 31, 32, 44 AND 45

See claim rejection (1) above.

Amended claim 31 recites:

A mobile station comprising: a transceiver configured to enable communication such that **the mobile station functions as a gateway mobile terminal for being**

coupled between at least one Mobile Network Node (MNN) and an access point (AP) of an access network (AN); and a data processor configured, in response to the mobile station connecting to the AP, to send a request for information to a link layer address (LLA) manager of the AN, wherein the information relates to a plurality of LLAs, and wherein the data processor is further configured, in response to receiving a response to the request, to allocate individual ones of the plurality of LLAs to individual ones of the MNNs.

In the Abstract and Summary sections, *Yegin* states:

This invention relates generally to a method of associating an IP address with a link layer address in a wireless communication network. The method comprises the steps of assigning an IP address to a plurality of link layer addresses; establishing a link layer connection with a first wireless network interface on the IP address; and establishing a link layer connection with a second wireless network interface on the IP address. The method of the present invention enables the increased downloading of data to a client device by aggregating data links associated with an IP address. The method also enables the bi-casting of data to a client device from an IP address associated with a plurality of link layer addresses of wireless communication device. Finally, the invention enables failure recovery by enabling downloading to a second link layer address if a communication link to a first link layer address deteriorates.

Yegin discloses associating an IP address with a plurality of link layer addresses. *Yegin* argues that this functionality provides benefits, such as: "enabl[ing] the increased downloading of data to **a client device** by aggregating data links associated with an IP address," "enabl[ing] the bi-casting of data to **a client device** from an IP address associated with a plurality of link layer addresses of wireless communication device," and "enabl[ing] failure recovery by enabling downloading to a second link layer address if a communication link to a first link layer address

deteriorates."

The architecture of the system of *Yegin* is apparent from FIGS. 1 and 2 wherein "[a] client host 102 is coupled to an access point 104 by a wireless communication link 106. The access point 104 is coupled to an access router 108 by a communication link 110. The access router 108 is coupled to a communication network, such as the Internet 112." *See col. 3, lines 12-18.*

Yegin does not disclose or suggest "**the mobile station functions as a gateway mobile terminal for being coupled between at least one Mobile Network Node (MNN) and an access point (AP) of an access network (AN)**," as recited in claim 31. The client host 102 of *Yegin* is a terminal device – there are no additional client hosts that communicate with the access point 104 via the client host 102. In fact, *Yegin* discloses no interrelation among any plurality of client hosts. *Yegin* does not disclose or suggest the presence or usage of "a gateway mobile terminal."

Yegin also does not disclose or suggest "**wherein the data processor is further configured, in response to receiving a response to the request, to allocate individual ones of the plurality of LLAs to individual ones of the MNNs**," as recited in claim 1. The link layer addresses of *Yegin* are utilized by a single device, the client host 102. The addresses are not allocated to other devices. *Yegin* does not disclose or suggest allocating the link layer addresses to any device other than the client host 102. A word search of *Yegin* reveals no occurrences of the words "allocate," "allocating" or "allocation." Furthermore, and in view of the lack of disclosure and support by *Yegin*, it would be an unreasonable extension of *Yegin* to assume the presence, disclosure and/or suggestion of any such allocation.

The features recited in claim 31 are not disclosed or suggested in the cited art. *Yegin* certainly cannot be seen as anticipating claim 31. Therefore, claim 31 is patentable and should be allowed.

Though dependent claims 32-42 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 31. However, to expedite prosecution at this time, no further comments will be made except as noted below.

Claim 32 recites: "A mobile station as in claim 31, where said data processor is operable to perform a neighbor discovery procedure with an access router (AR) of the AN **to send at least one neighbor advertisement to declare an LLA allocated to the at least one MNN.**"

Since *Yegin* does not disclose or suggest allocating link layer addresses, *Yegin* cannot be seen to disclose or suggest the subject matter recited in claim 32 as it relates to "**declar[ing] an LLA allocated to the at least one MNN.**" Claim 32 is patentable over *Yegin* and should be allowed.

It is briefly noted that claim 44 recites subject matter similar to that of claim 32. For the reasons stated above with respect to claim 32, claim 44 is similarly patentable over *Yegen* and should be allowed.

It is further noted that claims 44 and 45 depend, directly or indirectly, from independent claim 43. Claim 43 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Shitama* in view of *Yegin*. 37 C.F.R. §1.75(c) states: "Claims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim." Since independent claim 43 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Shitama* in view of *Yegin*, it is submitted that rejecting claims 44 and 45 under §102(e) as being anticipated by *Yegin* is incorrect as claims 44 and 45 should be construed to include all the elements of independent claim 43. Therefore, the rejection of claims 44 and 45 under §102(e) as being anticipated by *Yegin* is further traversed.

C. INDEPENDENT CLAIMS 1, 16, 31 AND 43

See claim rejection (2) above.

Amended claim 1 recites:

A method comprising: **sending a request for information relating to a**

plurality of link addresses to a link address manager of an access network (AN), where the request is sent by a gateway mobile terminal of a mobile network (MONET); receiving a response to the request; and allocating, based on the response, individual ones of assigned link addresses to individual ones of network nodes of the MONET.

As noted above in Section 3(A), *Yegin* does not disclose or suggest "**allocating, based on the response, individual ones of assigned link addresses to individual ones of network nodes of the MONET,**" as recited in claim 1. *Shitama* does not cure this defect of *Yegin*, nor does the Examiner argue otherwise. For at least this reason, the rejection of claim 1 is traversed.

At paragraphs [0090], [0094] and [0095], *Shitama* states:

According to the present invention, there is no need to modify an IPv6 address of a node when the node moves between subnetworks in a manner described above. Instead, a virtual network prefix which is a prefix specific to a mobile node is applied in the domain 24. The virtual network prefix is a special network prefix for micromobility which does not change if the node moves to a different subnetwork in the same domain.

...

A node which accesses a subnetwork in a virtual-network-prefix-supported domain uses the virtual network prefix to configure an address according to stateless auto-configuration. This eliminates the necessity to modify an IPv6 address comprising the virtual network prefix and the interface ID if the node moves to another subnetwork in the domain, because the virtual network prefix can be commonly used among all subnetworks in one domain.

Accordingly, a mobile node can freely move to a different subnetwork in a domain without address renewal, thereby supporting micromobility. For intra-domain routing to a node having an IPv6 address which is configured using a

virtual network prefix, host routing based on the interface ID of the lower 64 bits of the IPv6 address is employed. The routing operation is described later in detail.

On pages 5-6 of the Office Action, the Examiner appears to be interpreting the home agent 35 of *Shitama* as the "link address manager of an access network (AN)," recited in claim 1. At paragraph [0148], *Shitama* states:

In Mobile IPv6, a home agent (HA) is a node managing a subnetwork corresponding to the home address of a mobile node. When a communicating node moves, the home agent receives a binding update packet containing a new care-of address, or a virtual-network-prefix-based IPv6 address in this case, from the mobile node to update a binding cache which stores the correlation between the home address and the virtual-network-prefix-based IPv6 address.

This definition of a home agent corresponds with conventional usage of the term. A home agent enables a mobile node to change access points and continue receiving communications (e.g., communications addressed to a home address of the mobile node). This is accomplished by the home agent maintaining a care-of address for the mobile node, thus enabling forwarding of messages (e.g., messages addressed to the home address of the mobile node) to the current location/address of the mobile node and/or the provisioning of the care-of address for the mobile node. ***The home agent does not allocate or assign link layer addresses and Shitama discloses no such functionality.***

At paragraph [0114], *Shitama* further states:

In Mobile IPv6, the home agent (HA) 25 is a node managing a subnetwork corresponding to the home address of a node. When a communicating node moves, the home agent 25 receives a binding update packet containing a new care-of address, or a virtual-network-prefix-based IPv6 address in this case, from the mobile node to update the binding cache which stores the correlation between

the home address and the virtual-network-prefix-based IPv6 address.

Shitama does not disclose or suggest that a home agent provides "**information relating to a plurality of link addresses.**" The addresses managed by a home agent are mobile node-specific.

Shitama does not disclose or suggest any operation or communication whereby a home agent transmits information for more than one mobile node at a time. *See, e.g., FIGS. 1, 4 and 7 of Shitama.* It is noted that *Shitama* does not disclose or suggest any device or entity that provides "**information relating to a plurality of link addresses.**"

Furthermore, *Shitama* does not disclose or suggest "**sending a request for information relating to a plurality of link addresses to a link address manager of an access network (AN),**" as recited in claim 1. In rejecting claim 1, the Examiner failed to identify a communication or message of *Shitama* that is alleged to correspond to this element of claim 1. Moreover, *Shitama* does not disclose or suggest "**where the request is sent by a gateway mobile terminal of a mobile network (MONET),**" as recited in claim 1.

Based on the above arguments, the rejection of claim 1 under 35 U.S.C. §103(a) as being obvious over *Shitama* in view of *Yegin* is traversed. *Shitama* in view of *Yegin* does not disclose or suggest the elements recited in claim 1. Claim 1 is patentable and should be allowed.

Though dependent claims 2-15 and 58 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 1. However, to expedite prosecution at this time, no further comments will be made except as noted below.

Independent claims 16, 31 and 43 recite features similar to those of independent claim 1. For the reasons stated above with respect to claim 1, it is submitted that independent claims 16, 31 and 43 are not rendered obvious by *Shitama* in view of *Yegin*. Claims 16, 31 and 43 are patentable and should be allowed.

Though dependent claims 32-42, 44-57 and 59 contain their own allowable subject matter, these

claims should at least be allowable due to their dependence from allowable claims 16, 31 and 43. However, to expedite prosecution at this time, no further comments will be made except as noted below.

D. DEPENDENT CLAIMS

Claim 3 recites: "A method as in claim 58, where the gateway mobile terminal sends at least one neighbor advertisement to the AR to declare the link addresses allocated to individual ones of the network nodes." The Examiner cited *Yegin* as allegedly disclosing this subject matter. However, as noted above *Yegin* does not disclose allocating link addresses to network nodes. As such, *Yegin* cannot be seen to disclose or suggest the subject matter of claim 3 since it relates to declaring such allocations. Claim 3 is patentable over the cited prior art and should be allowed.

Claim 4 recites: "A method as in claim 1, where the request is made to obtain a set of link layer addresses (LLAs) that are allocated to individual ones of the network nodes." The Examiner cited *Yegin* as allegedly disclosing this subject matter. However, as noted above *Yegin* does not disclose allocating link addresses to network nodes. As such, *Yegin* cannot be seen to disclose or suggest the subject matter of claim 3 since it relates to allocating link layer addresses. Claim 4 is patentable over the cited prior art and should be allowed. Claim 46 recites similar subject matter as claim 4 and, thus, is also patentable over the cited prior art and should be allowed.

Claim 5 recites: "A method as in claim 1, where the request is made to obtain a group identification (Group_ID), where the method further comprises using an obtained Group_ID to formulate a set of link layer addresses (LLAs) that are allocated to individual ones of the network nodes." The Examiner cited *Shitama* as allegedly disclosing this subject matter. However, *Shitama* does not disclose or suggest allocating link addresses and the Examiner admitted so. *See p. 6 of the Office Action.* As such, *Shitama* cannot further be seen to disclose or suggest "formulat[ing] a set of link layer addresses (LLAs) that are allocated to individual ones of the network nodes." Claim 5 is patentable over the cited prior art and should be allowed. Claim 49 recites similar subject matter as claim 5 and, thus, is also patentable over the cited prior art and

should be allowed.

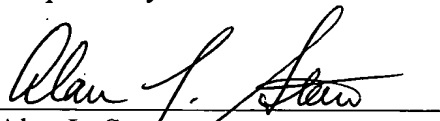
Claim 8 recites: "A method as in claim 4, where the set of LLAs are associated with a first AP, the method further comprising, in response to changing a connection of the gateway mobile terminal from the first AP to a second AP, sending a message from the gateway mobile terminal to reassociate the set of LLAs with the second AP." The Examiner cited *Chiou* as allegedly disclosing this subject matter. While *Chiou* discloses reassociating a mobile station with an Access Point B (see *Abstract of Chiou*), *Chiou* does not disclose or suggest reassociating a **set of LLAs** with a second AP. Claim 8 is patentable over the cited prior art and should be allowed.

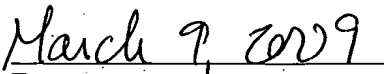
IV. CONCLUSION

It is briefly noted that, while it is believed that the arguments presented herein sufficiently address the Examiner's claim rejections, the Applicants reserve the right to further argue one or more of the claims (e.g., further dependent claims) in one or more subsequent actions (e.g., a further Response to Office Action or a Notice of Appeal).

The Examiner is respectfully requested to reconsider and remove the rejections of claims 1-16 and 31-59 and to allow all of the pending claims as now presented for examination. For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Should any unresolved issue remain, the Examiner is invited to call Applicants' agent at the telephone number indicated below.

Respectfully submitted:


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Date

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3/9/2009
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